

Local Work Instruction:**Transocean Polar Pioneer: Desalination Unit Waste Discharge – D005****Approved By:****Scope:****Issue Date:****Revision level:****Written By:****Revised By:****Revision/Review****Date:****Next Review Date:**

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SCOPE:

This document offers work level instructions for the sampling, testing, and reporting associated with desalination unit effluent waste discharges while operating under the guidelines of the NPDES General Permit (AKG-28-8100), on-board the *Transocean Polar Pioneer*. The *Polar Pioneer* utilizes evaporation units in distilling seawater into freshwater. Desalination unit wastes will consist of wastewater associated with the process of creating freshwater from seawater. The effluent waste consists of residual high-concentration brine similar to seawater in chemical composition and is discharged to the receiving waters. The M-I SWACO NPDES Compliance Specialist will sample, test and record all data onto the NPDES Master Spreadsheet. All records will be submitted to the Shell Environmental Department for entry onto the netDMR and submission to EPA. No chemicals will be added to effluent.

RESPONSIBILITY:

The M-I SWACO NPDES Compliance Specialist is responsible for ensuring that this LWI has been provided to each person involved with this task.

1.0 References:

1.0 NPDES GP AKG-28-8100:

1.0.1 Table 6 – *Effluent Limitations and Monitoring Requirements for Desalinization Unit Waste (D005)*.

1.1 Figure – Discharge Points (Harris Pye).

1.2 Transocean Standard Operating Procedure.

1.0 Transocean Polar Pioneer Best Management Practices Plan, April 2015.

1.1 Transocean Polar Pioneer Quality Assurance Project Plan, April 2015.

1.2 M-I SWACO (or Misc.) Standard Operating Procedures: 1006, 2001, 2012, 2003, 2008, 3004, ENV001.01, TOX045.02, TOX002.65, TOX012.06, TOX014B.02, TOX043.06

1.3 M-I SWACO LWI - Chemical Inventory and Additives Use Management.

1.4 Shell Exploration & Production Company Alaska Venture 2015 Polar Pioneer Waste Management Plan.

2.0 General Requirements:

1.3 The M-I SWACO NPDES Compliance Specialist is responsible for sampling, testing, and reporting to the Shell Environmental Department all effluent discharge permit conditions while operating under the requirements of the NPDES GP AKG-28-8100. Test results, along with the estimated volumes, will be reported to the Shell Environmental Department.

1.4 Shell Environmental Department is responsible for maintaining the Discharge Monitoring Report

(netDMR) and submitting to EPA, all discharge sampling, testing and results on a monthly basis.

- 1.5 Transocean is responsible for annual testing, operation, and repair of all equipment associated with this discharge.

3.0 Safety Guidelines:

- 3.0 Before any operations can take place, all personal involved in this process must complete the following details if required by operator or contractor:
 - 3.0.1 The Pre-Tour Meeting is when daily activities are discussed.
 - 3.0.2 Written Risk Assessment with all involved parties present.
 - 3.0.3 After action review of Risk Assessment.
 - 3.0.4 Transocean Permit to Work.

4.0 Discharge / Task Description:

- 4.0 Raw seawater is withdrawn from the General Seawater Service Line located in the desalinization unit room and enters the desalinization unit for processing into freshwater.
- 4.1 The effluent from the desalinization unit is returned to the General Seawater Service Line for discharge into the receiving waters via the common discharge line that is located adjacent to the Aft Starboard #4 column.
- 4.2 Flow volume for the desalinization unit is viewed directly from the flow meter that is mounted to the exterior of each desalinization unit. Total volume discharged will be recorded on a daily basis. In the event of flow meter failure, discharge volume estimates can be provided based on the manufacturers operating manual and from historical data.
- 4.3 Free oil testing using either the visual sheen method or static sheen method must be performed daily while operating under the NPDES GP. Visual tests must be performed during daylight hours while the receiving water can be seen. During low visibility conditions, a static sheen test will be performed. Observations are recorded on the NPDES Master Spreadsheet.
- 4.4 A sample port has been installed near the discharge location. Samples needed for analytical testing (Initial Toxicity, pH, and WET) will be collected using this dedicated sample port.
- 1.6 The M-I SWACO NPDES Compliance Specialist will immediately report to Shell Environmental Department, at 907-830-7435, of any upset condition.

5.0 Sampling Plan for Desalinization Unit Waste (D005):

Effluent Parameter	Effluent Limitations		Monitoring Requirements	
	Average Monthly Limit	Maximum Daily Limit	Sample Frequency	Sample Type
pH	Report (s.u.)		Monthly	Grab
Free oil	No discharge ^{note 1,2}		Once/discharge	Visual / Grab
Total Volume	Report (gal)		Monthly	Flow Meter

WET	Report (TU _c)	Use rapid toxicity test 4X/well as initial screen. If initial screen passes, WET is not required.	Collect grab sample for analysis if results show potential toxicity or 1X/well if discharge >10,000 gal during 24 hr and if chemicals are added to the system.
Temperature	Report (°F)	Continuous	Measure

6.0 Clean-up:

6.0 Follow housekeeping practices.

7.0 Contingency:

7.0 Notify Transocean Maintenance Department if any equipment isn't working properly.

Revision Log:

<u>Date:</u>	<u>Document History:</u>	<u>Revised/reviewed by:</u>	<u>Location:</u>